SOFTWARE PROJECT MANAGEMENT

Course code: 13CS2112 **L P C**
4 0 3

Pre requisites: Software engineering.

Course Educational Objectives:

To provide an understanding of the various processes software engineers may employ in developing contemporary software systems

Course outcomes:

- To examine all phases of the software development life cycle, from initial planning through implementation and maintenance.
- To develop an understanding of the tools and techniques.
- Be well aware on ethical issues related to software project management and can apply this ethical knowledge in practical situations.
- Understands how different management and development practices affect software and process quality.
- Apply theoretical knowledge on project management and software development into practice.

UNIT – I

Conventional Software Management : The waterfall model, conventional software Management performance. Evolution of Software Economics : Software Economics, pragmatic software cost estimation. Improving Software Economics : Reducing Software product size, improving software processes, improving team effectiveness, improving automation, Achieving required quality, peer inspections.

UNIT – II

The old way and the new: The principles of conventional software engineering, principles of modern software management, transitioning to an iterative process. Life cycle phases : Engineering and production stages, inception, Elaboration, construction, transition phases.

Artifacts of the process: The artifact sets, Management artifacts, Engineering artifacts, programmatic artifacts. Model based software architectures: A Management perspective and technical perspective.

UNIT – III

Flows of the process: Software process workflows, Inter trans workflows. Checkpoints of the Process: Major Mile Stones, Minor Milestones, Periodic status assessments. Interactive Process

Planning: Work breakdown structures, planning guidelines, cost and schedule estimating, Interaction planning process, Pragmatic planning.

UNIT – IV

Project Organizations and Responsibilities: Line-of-Business Organizations, Project Organizations, evolution of Organizations. Process Automation: Automation Building Blocks, The Project Environment. Project Control and Process instrumentation: The server care Metrics, Management indicators, quality indicators, life cycle expectations pragmatic Software Metrics, Metrics automation. Tailoring the Process: Process discriminants, Example.

UNIT – V

Future Software Project Management: Modern Project Profiles Next generation Software economics, modern Process transitions. **Case Study:** The Command Center Processing and Display System-Replacement(CCPDS-R).

Text Books:

1. Walker Rayce : "Software Project Management A Unified Framework", 1st Edition, Pearson Education, 2005.

References:

1. Richard H.Thayer : "Software Engineering Project Management", 2nd Edition, IEEE Computer Society, 1997.

2. Shere K.D. : "Software Engineering and Management", 1st Edition, Prentice Hall, 1988.